

*The Institution of Engineers, Australia: Sydney Division  
Engineering Heritage Committee*

*Oral History Program: Biographical Notes*

**Keith McCallum MURRAY (1918 - )**  
**Marine Engineer**

- Birth & Family:** Born 16 March 1918, Hurlstone Park, Sydney. Only child of Roy McCallum Murray who worked as a clerk at Mort's Dock and Ethel (nee Nesbitt). No siblings. Married, one daughter.
- Education:** Attended Canterbury Infants and Primary School (1923-1928), and Sydney Technical High School (1929-1933), achieving Leaving Certificate at 15. Commenced Apprenticeship in Engineering in 1933. Studied mechanical engineering part-time at Sydney Technical College, 1933 -1939.
- Qualifications:** Diploma of Mechanical Engineering, Sydney Technical College, 1939
- Memberships:** Chartered Engineer of the Engineering Council (UK)  
Fellow and Hon. Vice President, Institute of Marine Engineers (London)  
Life Member, Royal Institution of Naval Architects  
Fellow, Institute of Material Handling (UK)
- Work History:** After completing the Leaving Certificate in 1933, Murray commenced his apprenticeship at Mort's Dock in the toolroom. He enrolled straight into the Mechanical Engineering Diploma Course, which involved classes for three nights per week, while working 44 hours per week.
- Murray worked on a variety of machines for two years in the toolroom and machine shop, learning the importance of accurate work and the need to sometimes make special equipment to carry out a task. The work included occasional non-marine projects including medical equipment for anaesthetic machines and needles, also equipment for an automatic electric welding machine for large steel pipes used on the Warragamba pipeline. In addition to his normal work, he was given the job of repairing the metric thread-cutting lathe.
- In mid 1936 Murray moved to the Fitting Shop for two months, where he worked on refrigeration compressors, air pumps for sewerage work, and auxiliary machinery for ships. He helped to fit various items of machinery into three 'water buses' (ferries), for the Parramatta River service. From the end of 1936 Murray worked on the 'marking-off' table for 18 months, the most important job in the shop. He was required to read drawings and sometimes create drawings for the foundry or machinist to work by, so broken items could be duplicated.
- A 5-month strike by Fitters and Machinists gave the apprentices an excellent opportunity to work alone. Murray did all the marking-off and also worked outside the shop on board vessels in dock. The MV 'Duntroon' was always under repair, requiring the main engine cylinder liners to be replaced. Murray, as a 4<sup>th</sup> year apprentice, was able to sketch, then mark off and machine the new section required, which he then installed allowing the vessel to sail on time.
- When the strike ended Murray was placed in the drawing office where he stayed till the end of his apprenticeship. He drew up plans for gas

holders, power station condensing units, hull repair plans and several drawings for the pilot steamer, Captain Cook III. He also designed a portable boring bar to bore out stern tubes of vessels.

The declaration of war changed Murray's plans to go to sea as a junior engineer. He was placed in charge of converting three steam trawlers to minesweepers. This involved drawing sketches to suit the particular vessel. He was then put in charge of converting the 'Arawa' to an armed cruiser. Murray was sent to Garden Island to assist with drawing up the plans for the conversion of the 'Westralia', which he then supervised. Meanwhile Cockatoo Docks prepared plans for Bathurst Class local defense vessels or Corvettes, some of which the Navy ordered from Mort's. For the project Murray assisted the Engineer-in-Charge, who he eventually replaced. In all Mort's built fourteen Corvettes, four 'River' class frigates, three 93-foot (28 metre) tugs, two fuel lighters and two battle practice target ships.

In the closing stages of the war Murray worked on the repair and overhaul of several vessels from the British 5<sup>th</sup> Fleet including the aircraft carrier 'Indefatigable', two submarines, and numerous small coastal vessels. After the War ended, Murray re-converted the Union Steamship Co's TSS 'Monowai' from an infantry transport back to a first class passenger vessel. It was completed in January 1949 and was probably the biggest refit ever carried out in Australia.

In March 1949 Murray resigned from Mort's Dock. He moved to Union Steamship subsidiary company Wellington Patent Slip Co, in New Zealand, as Assistant Manager and also as Travelling Repair Superintendent for Union Steamship Co in Vancouver, Canada. This involved the survey, repair and conversion of the trans-Pacific fleet. On return to Wellington after 12 months, Murray resumed the supervision of normal surveys and running repairs on the Company's Fleet, including emergency repairs to ships at sea.

After four years Murray transferred back to Australia as Assistant to the Repairs Superintendent, whose position he later assumed. While there, Murray was involved in the design and construction of vessels which would Load on/Load off with cranes and Roll on/Roll off with cargo. He supervised the conversion of a cargo ship and the construction of cargo handling equipment in Hong Kong. He converted a concentrates carrier to enable it to carry zinc concentrates and sulphuric acid to and from Tasmania. He next designed a vessel specifically for the Tasmanian run, again using the Roll on/Roll off technology, this time fitted with lifts to service the holds and upper decks and with an increased capacity. In 1969 Murray designed a ship powered by gas turbines, but the plans were shelved due to the Union SS Co. being taken over by Thomas Nationwide Transport (TNT) in 1972, at which time he resigned.

Murray moved to Howard Smith's as Workshop Superintendent. In about 1974 he was involved in setting up a modern workshop at the Caltex Oil Refinery at Kurnell. Finding this job unchallenging, Murray then worked for P&O as General Manager in Fiji under a two-year contract. He was able to reverse the company's serious financial problems by introducing better, less expensive repair methods. He travelled extensively around the Pacific quoting and winning contracts and also spent time in court to obtain payment for outstanding accounts. At the completion of his contract Murray and his wife returned to Australia to retire, on 26 January 1980.

By March of 1980, Murray was appointed Secretary of the Australian/New Zealand Division of the Institute of Marine Engineers



(London), which he held until March 1994, when he was made an Honorary Vice President. During this time Murray did part time consulting work plus lectures for University of New South Wales Naval Architecture Department. He also assisted the Marine Superintendent at the CSIRO when required, and acted as Marine Superintendent for several months. Murray also presented papers and helped organize several symposia on maritime matters in Sydney. After his retirement Murray worked in a consulting capacity.

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Prepared by Linda Windley, 10 February 2003 from oral history interview conducted on 6 June 2002